

Global Tropics Hazards And Benefits Outlook

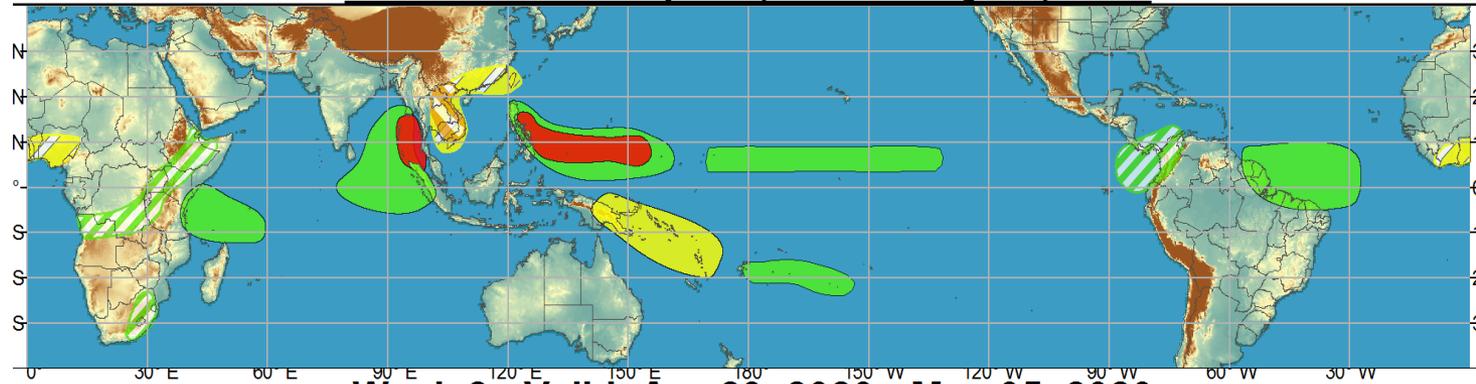
05/05/2020

Dan Harnos

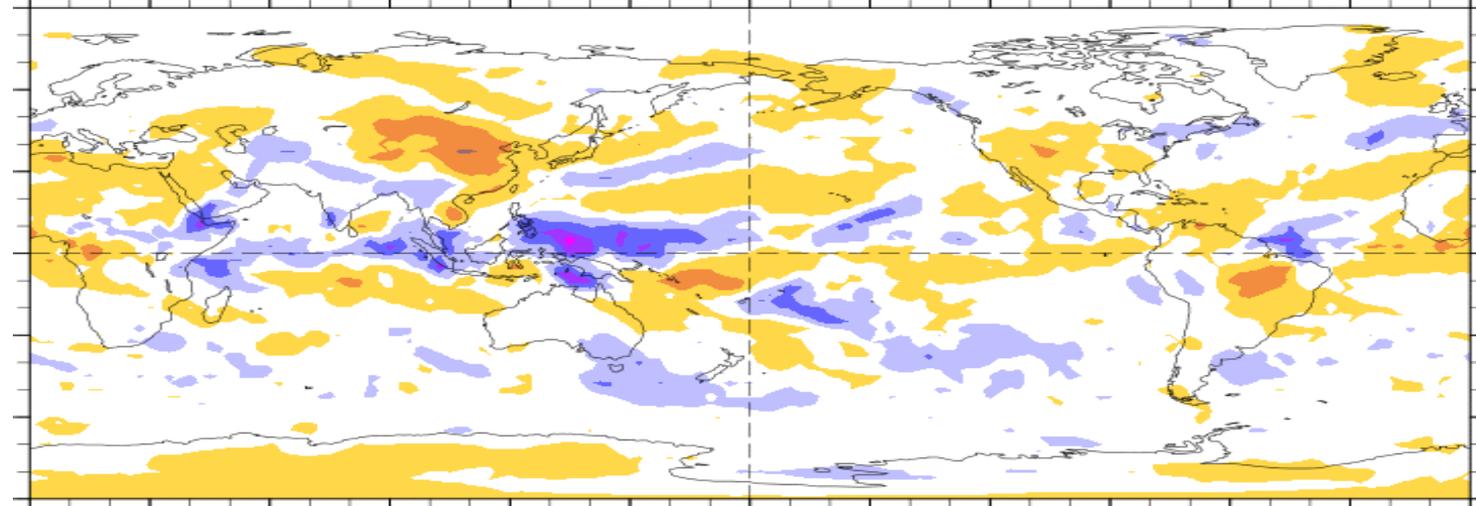
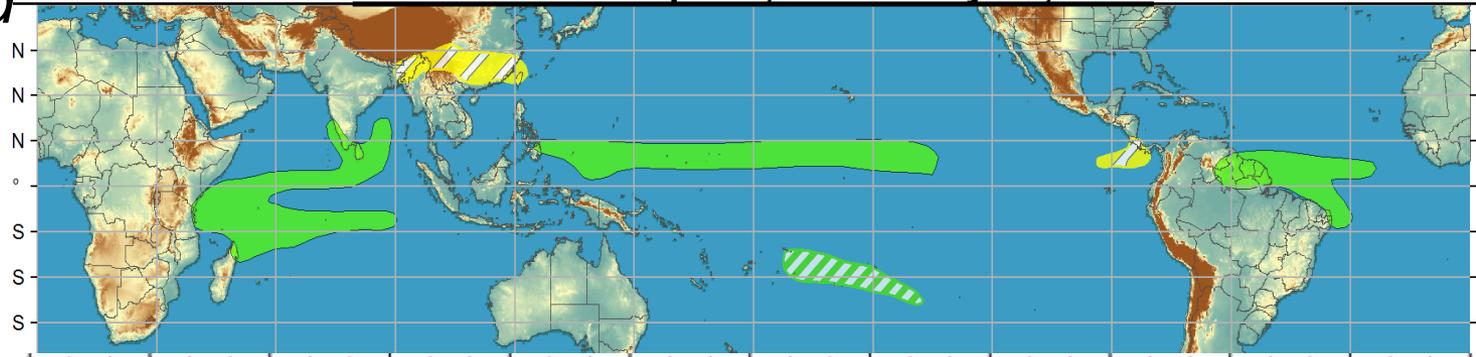
Outline

1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Week 1 - Valid: Apr 29, 2020 - May 05, 2020



Week 2 - Valid: Apr 29, 2020 - May 05, 2020



Outlook Review

*No TCs formed
since last
Wednesday.*

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Quantitative verification can be found [here](#) (updates late on Wednesdays).

Synopsis of Climate Modes

ENSO: (April 9, 2020 Update)

next update on May 14

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored for the Northern Hemisphere summer 2020 (~60% chance), remaining the most likely outcome through autumn.

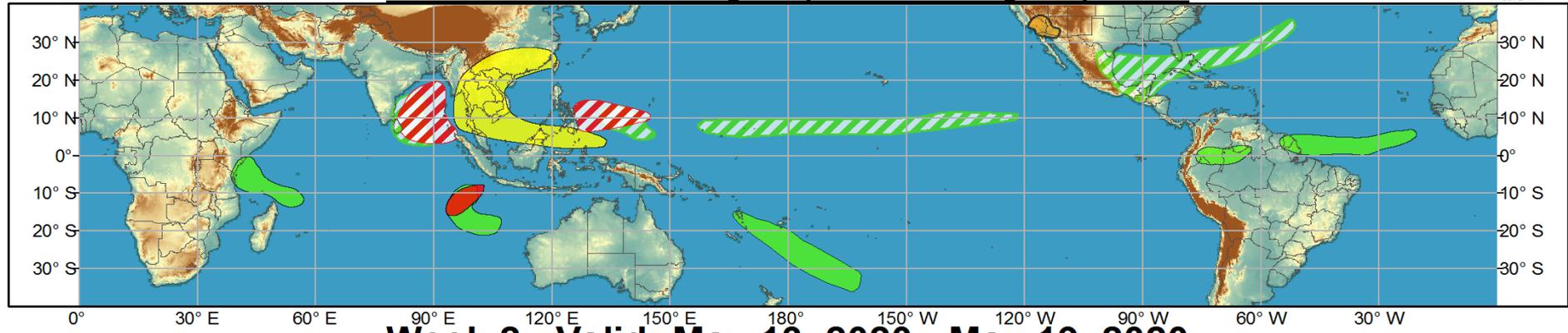
MJO and other subseasonal tropical variability:

- A complicated perspective currently exists with 2-3 Kelvin waves over the Eastern Hemisphere, in addition to a slower moving envelope (MJO?).
- The RMM index places the MJO over the Maritime Continent, with models showing brief eastward propagation before weakening of the signal and a push toward an Indian Ocean signal late in Week-2.
 - This evolution could be tied to one of the Kelvin waves becoming a focal point for new convection, and emerging as the dominant tropical player.
- Extratropical impacts are unlikely at this time, but another pre-season tropical cyclone in the East Pacific cannot be ruled out in the wake of the intraseasonal modes crossing the basin.

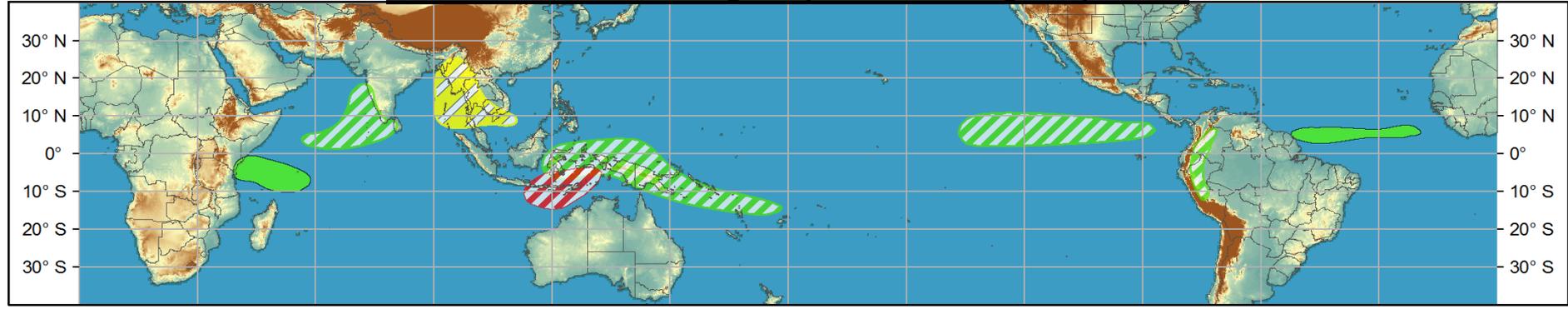


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 06, 2020 - May 12, 2020



Week 2 - Valid: May 13, 2020 - May 19, 2020



Produced: 05/05/2020
Forecaster: Harnos

Confidence		
High	Moderate	
		Tropical Cyclone Formation Development of a tropical cyclone (tropical depression - TD, or greater strength).
		Above-average rainfall Weekly total rainfall in the upper third of the historical range.
		Below-average rainfall Weekly total rainfall in the lower third of the historical range.
		Above-normal temperatures 7-day mean temperatures in the upper third of the historical range.
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IR Satellite & 200-hpa Velocity Potential Anomalies

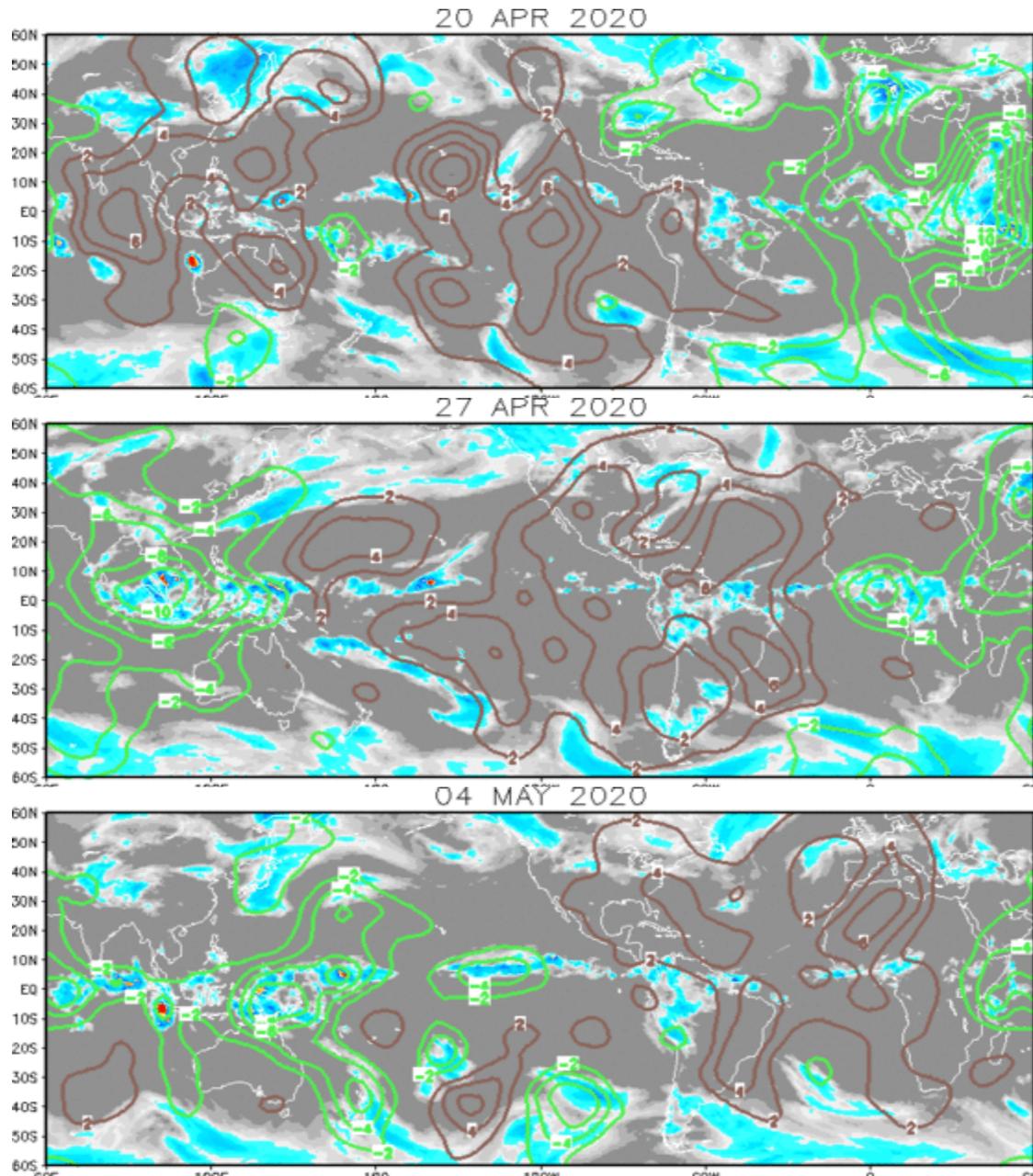
Green: Enhanced Divergence

Brown: Enhanced Convergence

Classic Wave-1 pattern, indicative of active MJO presence over the Indian Ocean.

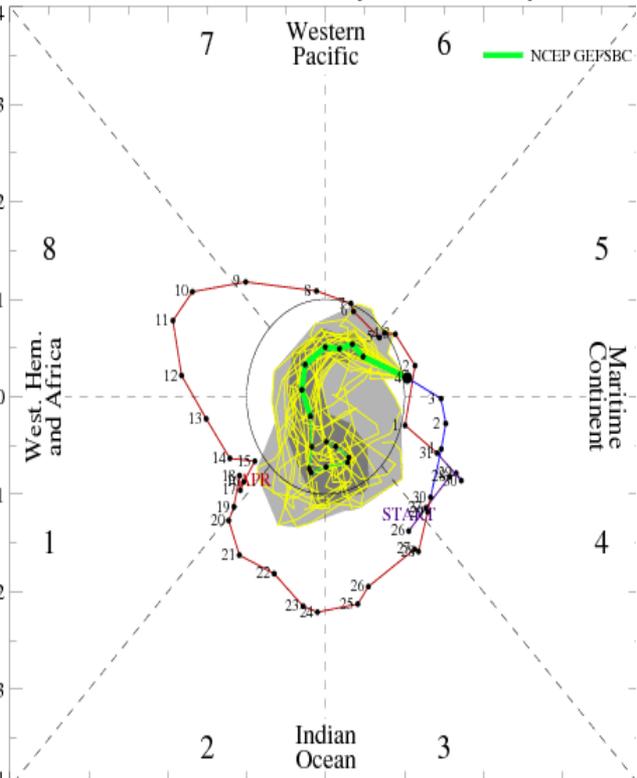
Eastward progression of the Wave-1 pattern, although at a decreased amplitude.

Continued eastward propagation while the amplitude remains fairly modest.



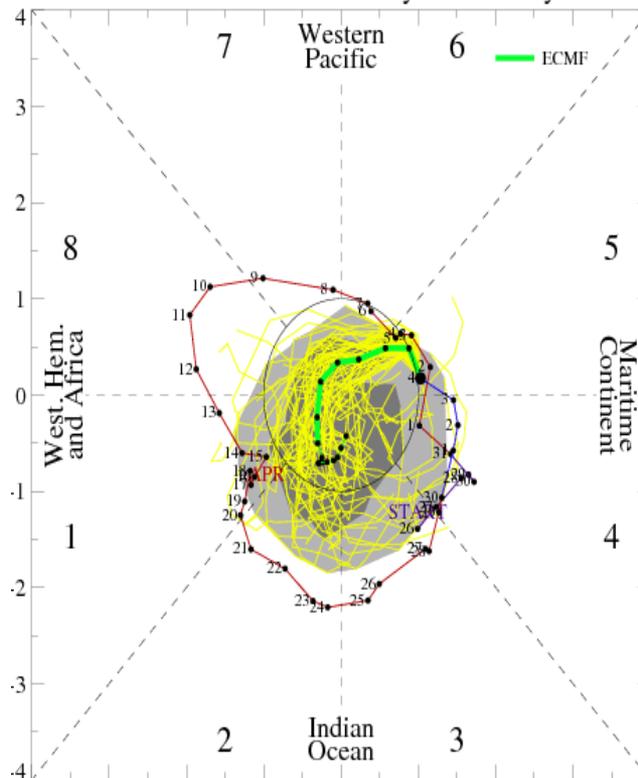
MJO Observation/Forecast

[RMM1, RMM2] forecast for May-05-2020 to May-19-2020



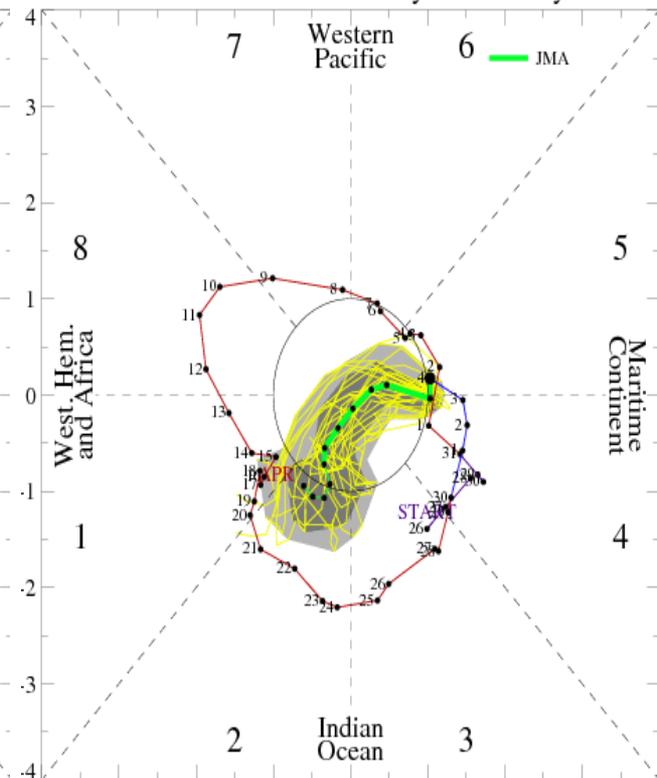
GEFS

MJO Index Forecast for 05May2020-19May2020



ECMWF

MJO Index Forecast for 05May2020-13May2020

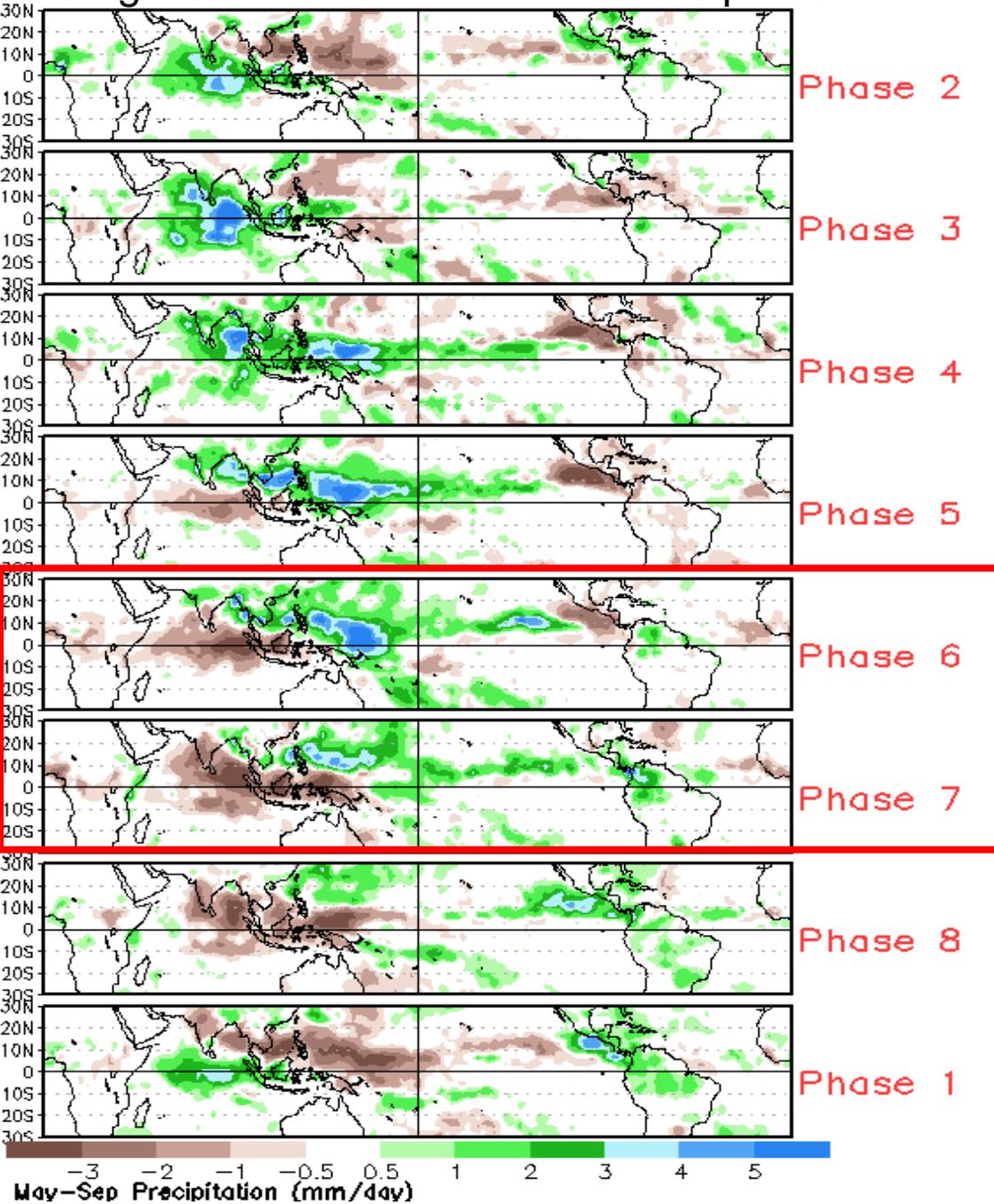


JMA

Each model continues eastward propagation for the next ~4 days, but at a reduced amplitude.

By the weekend signals begin to drive toward Phases 2/3, with the signal becoming fairly stationary late in Week-2.

Average Conditions when the MJO is present



Week-1: Phases 6/7
flavor(?)

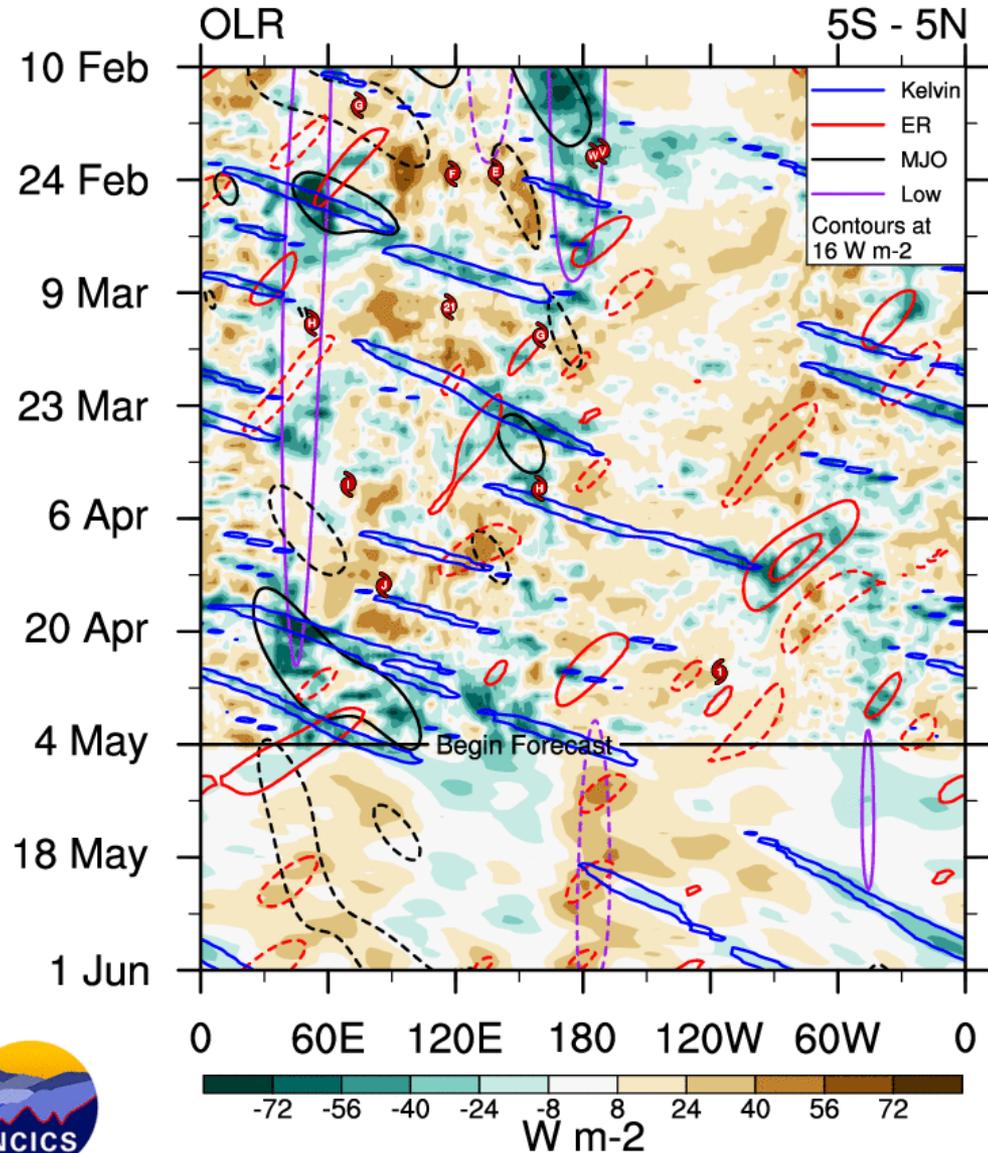
Week-2: ?????

CAVEAT: These panels are representative of robust MJO events.

Three **Kelvin waves** are apparent: near 90E, 130E, and the Date Line.

These are embedded within an envelope moving more slowly to the east (**MJO**?)

Low frequency signals point to suppressed convection across much of the Central and East Pacific.

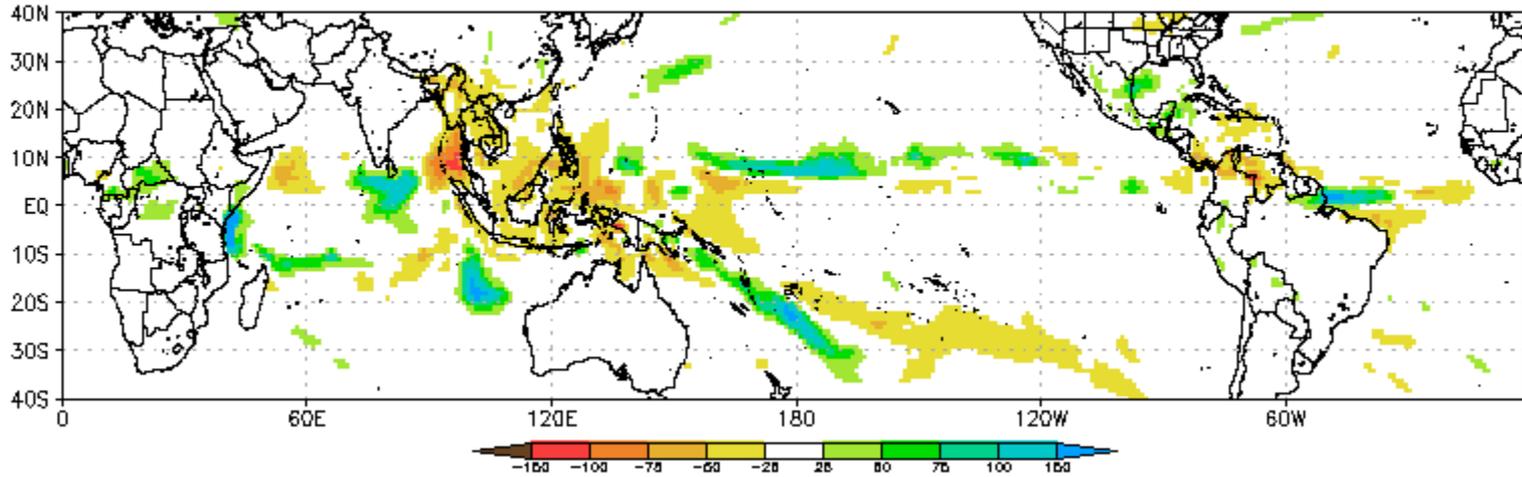


ncics.org/mjo

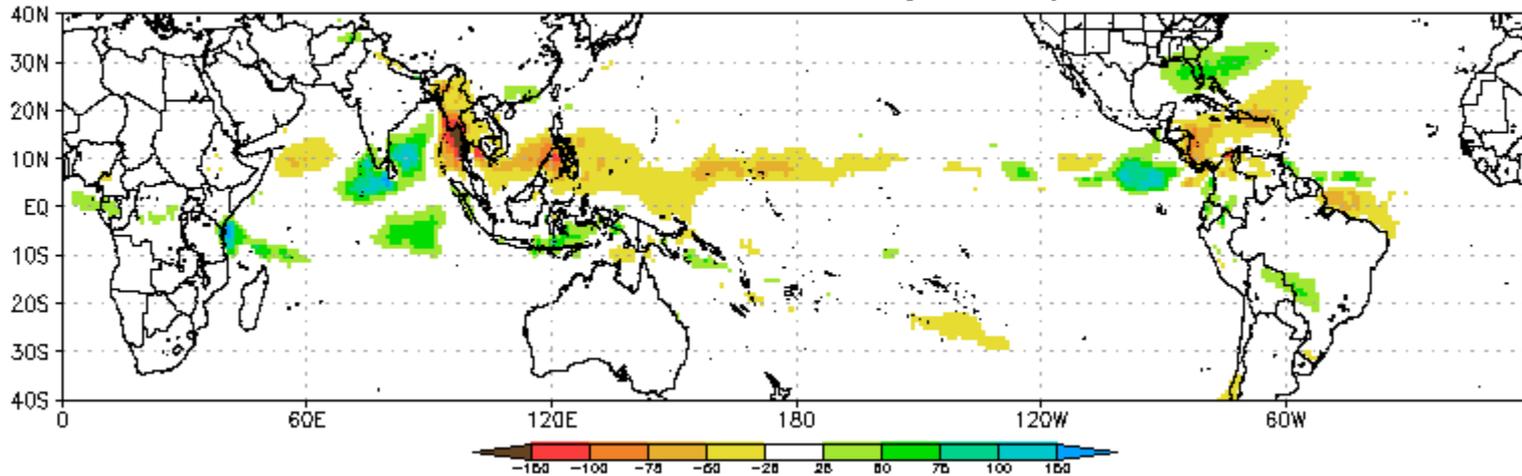
Tue 2020-05-05 15:16 UTC

Carl Schreck
carl_schreck@ncsu.edu

CFS Precipitation Anomalies (mm) Issued 04May2020
Week-1 Forecast Ending 12May2020

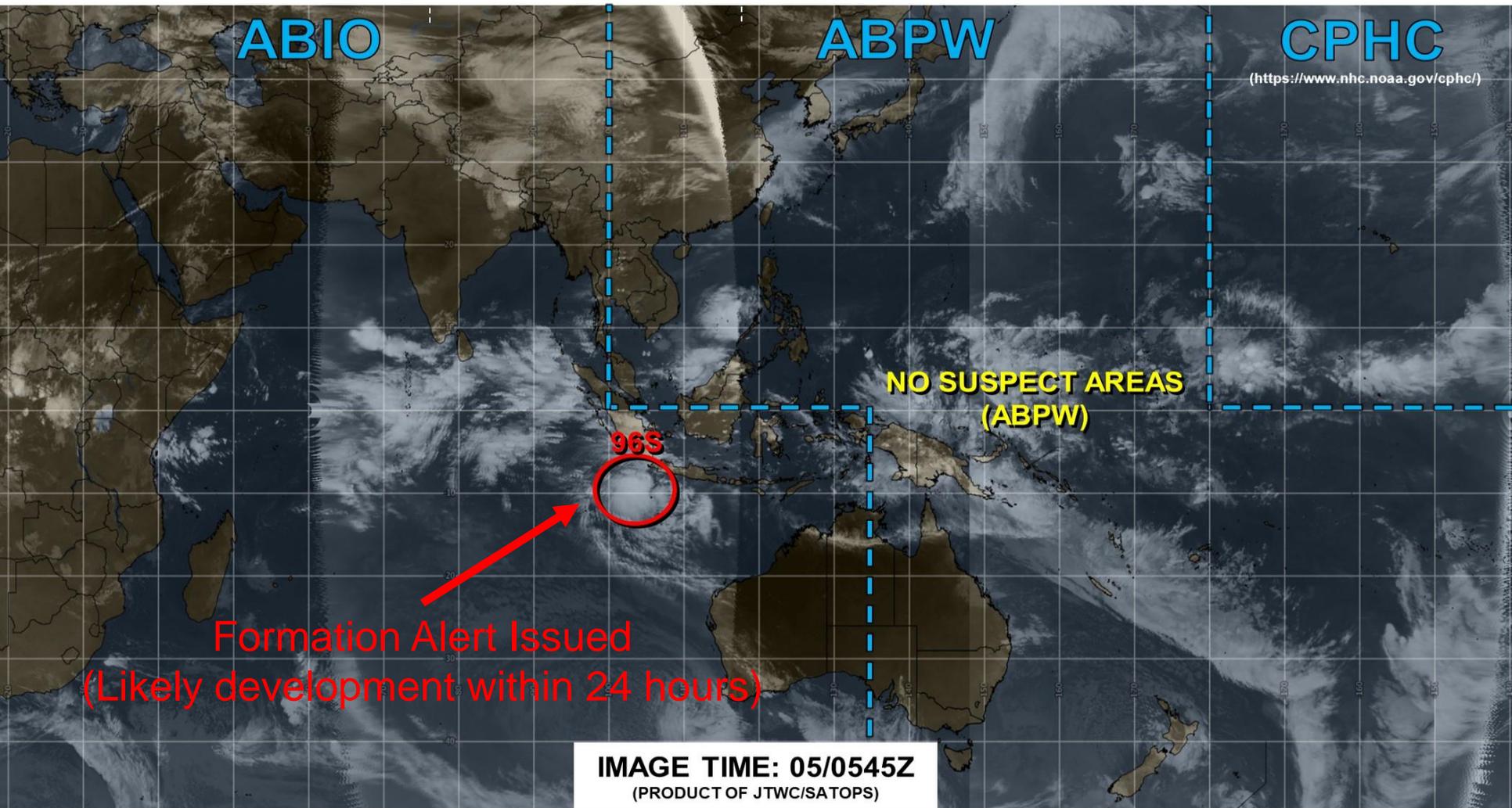


CFS Precipitation Anomalies (mm) Issued 04May2020
Week-2 Forecast Ending 19May2020





JOINT TYPHOON WARNING CENTER



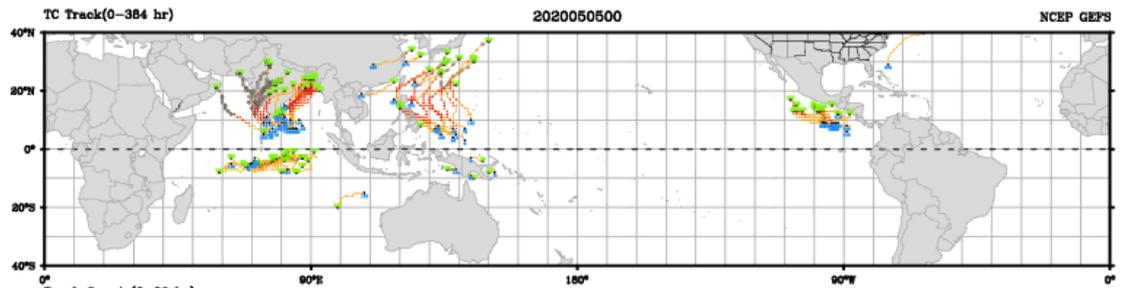
LOW TC development unlikely within 24 hours

MEDIUM TC development likely, but expected to occur beyond 24 hours

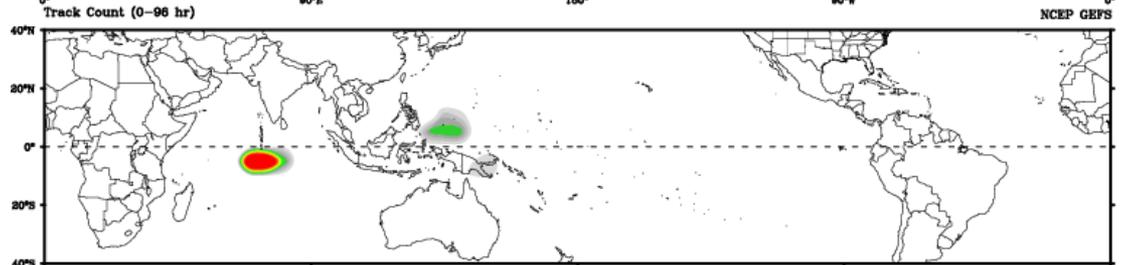
HIGH TC development likely within 24 hours (Reference TCFA)

SUB TROPICAL Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

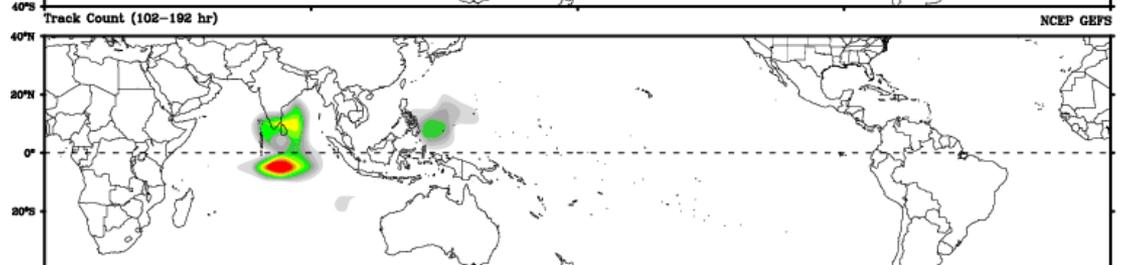
Tropical Cyclone (Reference Warning)



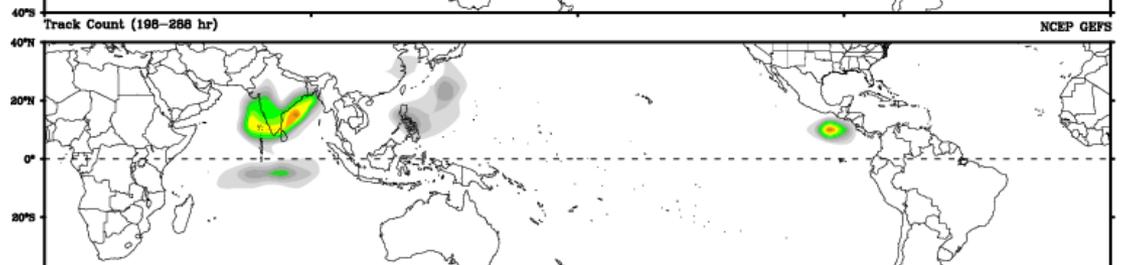
Days 1-4



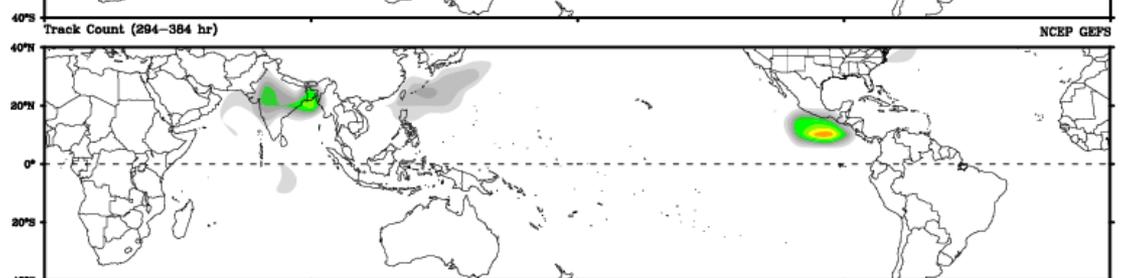
Day 5-8



Day 9-12

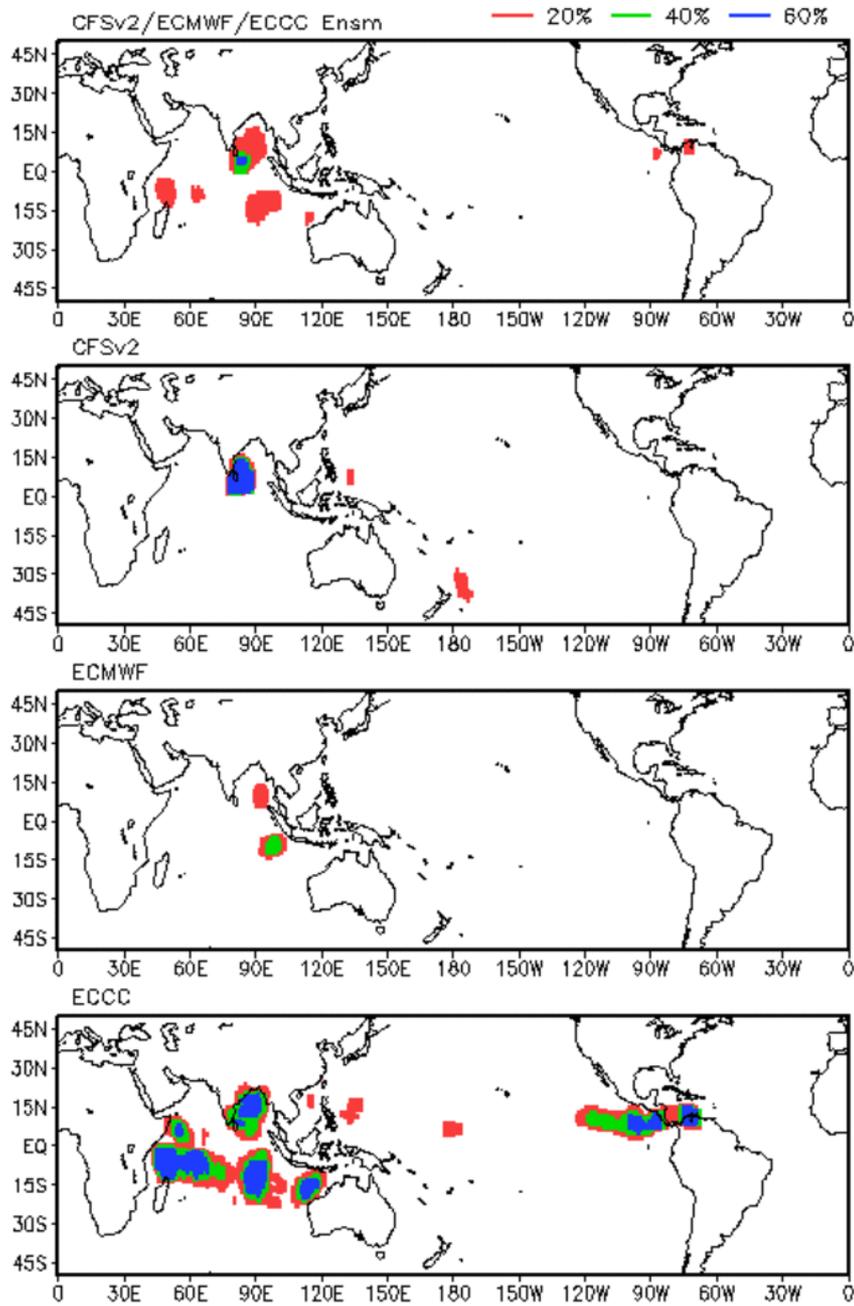


Day 13-15



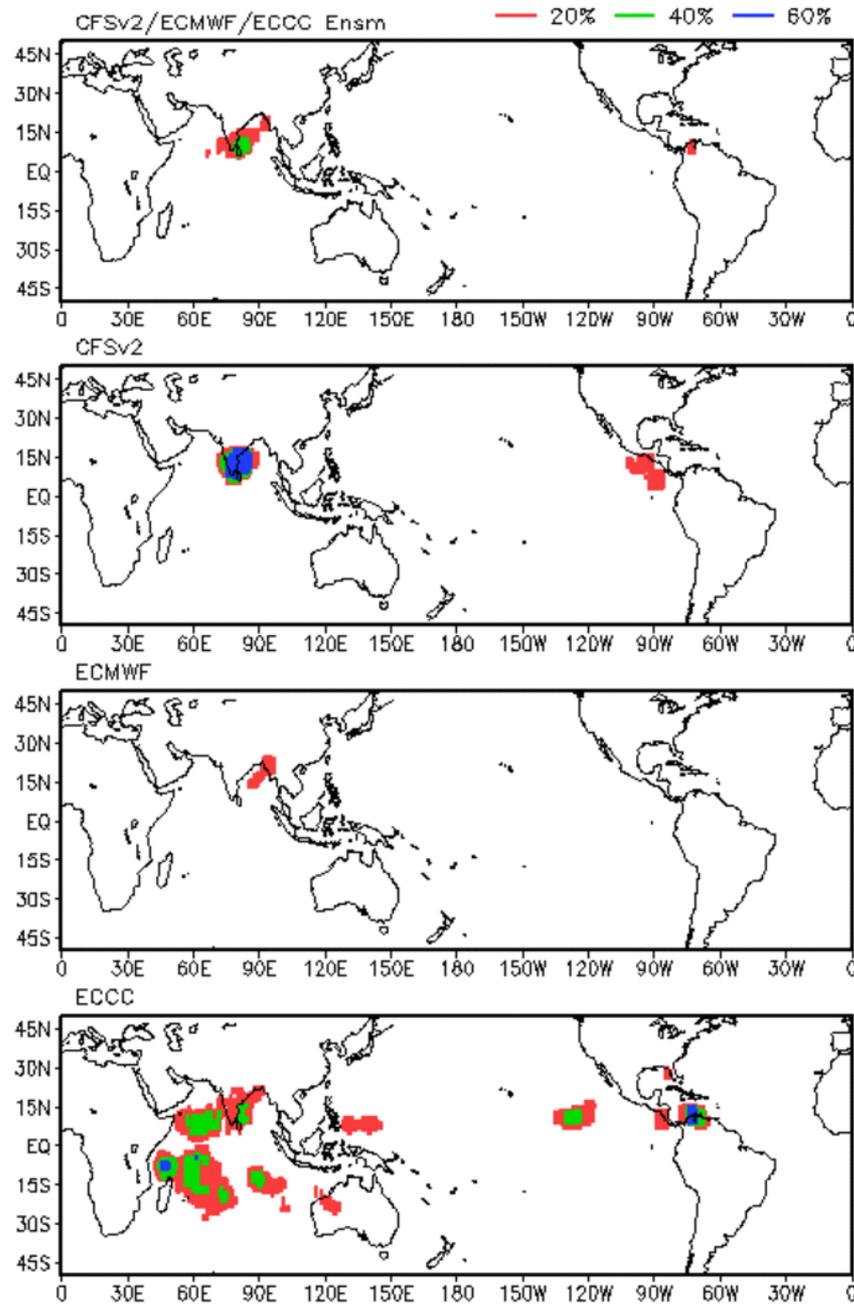
Storm Track Probabilities, IC=20200504

Week 1: 0506 - 0512



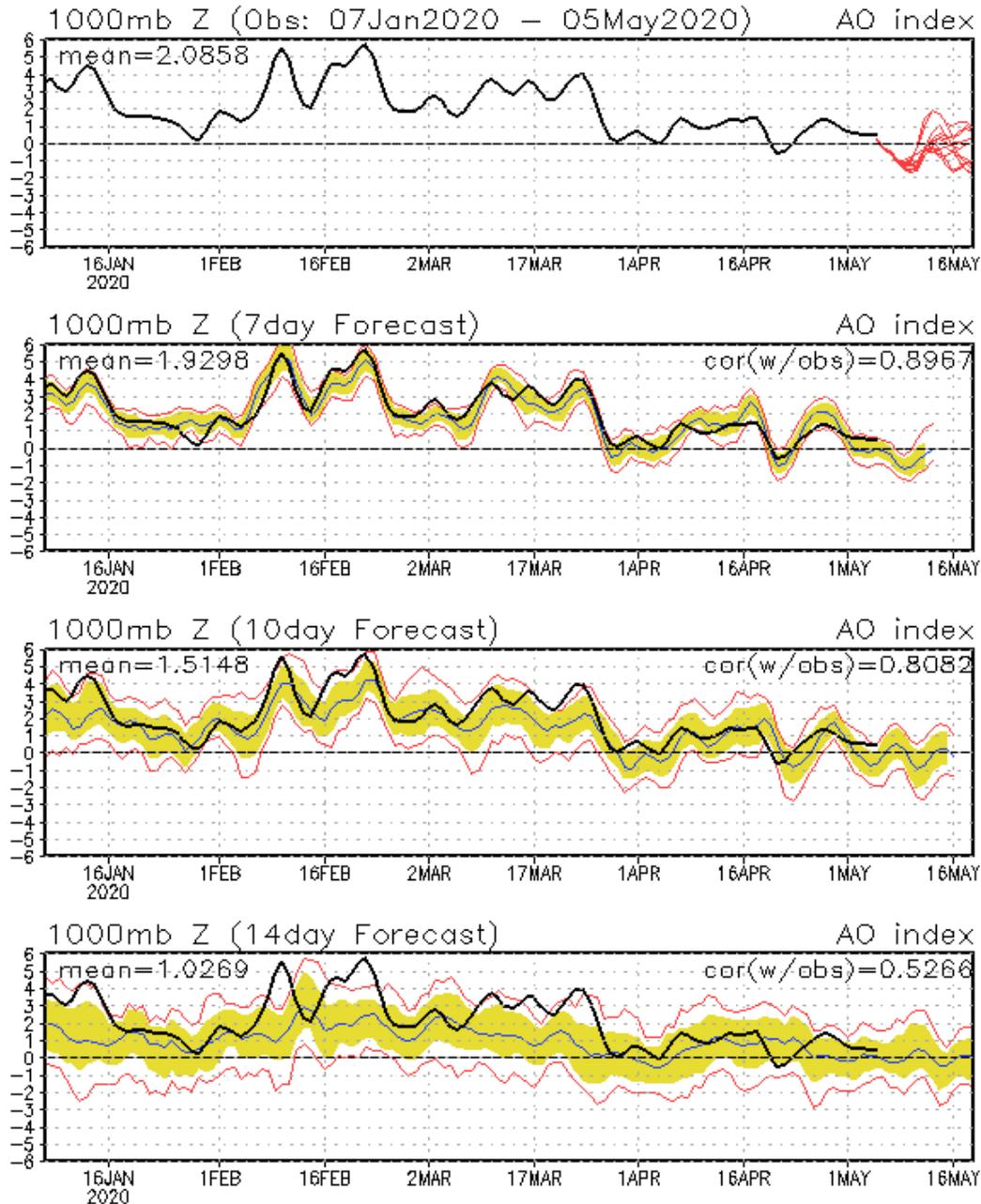
Storm Track Probabilities, IC=20200504

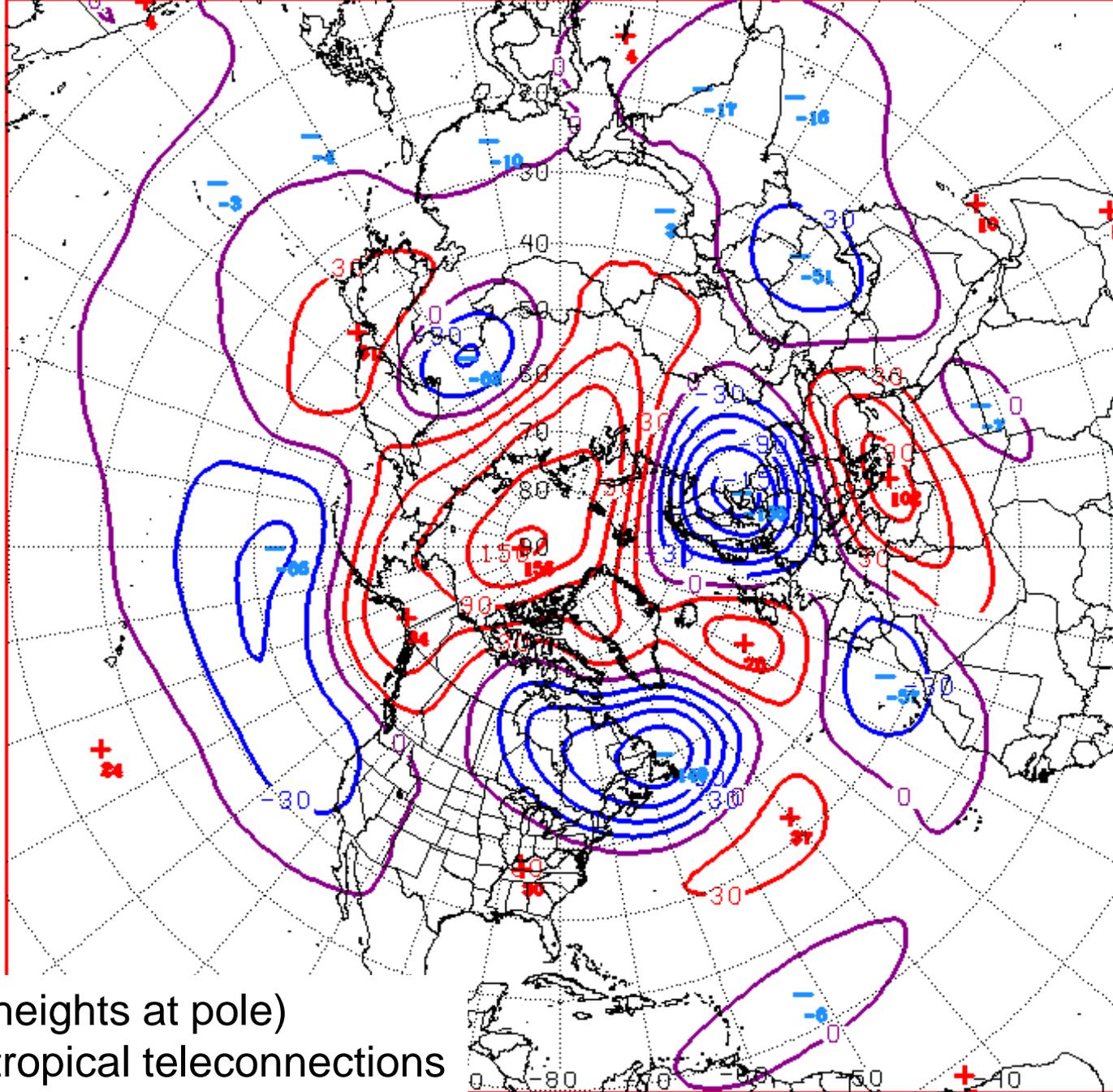
Week 2: 0513 - 0519



Connections to U.S. Impacts

AO: Observed & ENSM forecasts

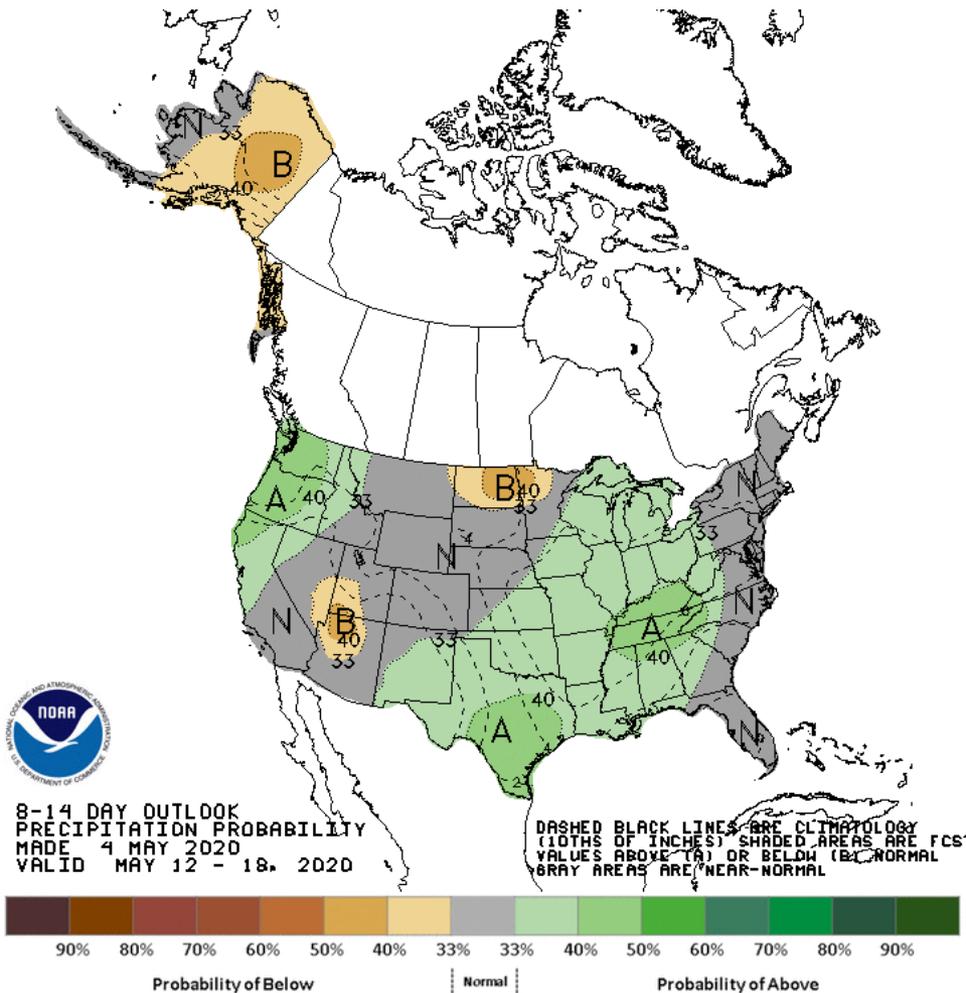
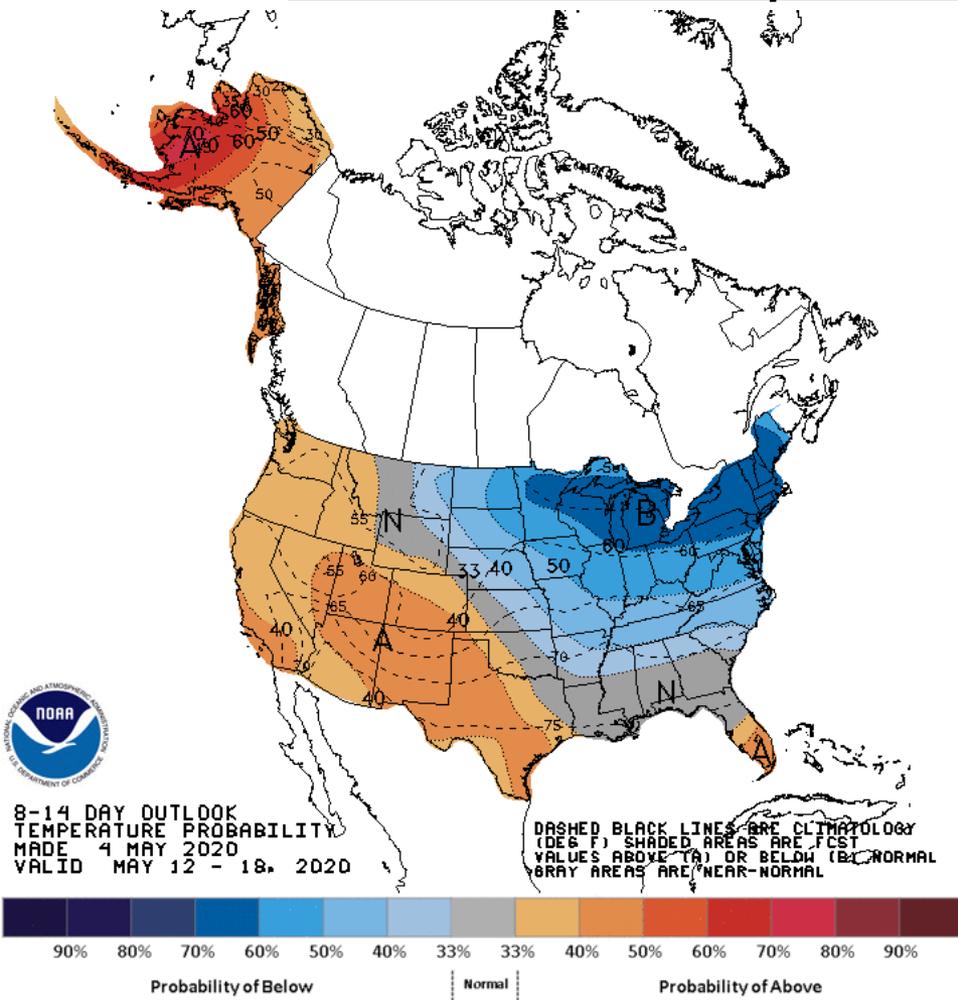




-AO (high heights at pole)
No hint of tropical teleconnections

D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAY 05 2020 1333 UTC CNTD MAY 16 2020

Week 2 – Temperature and Precipitation

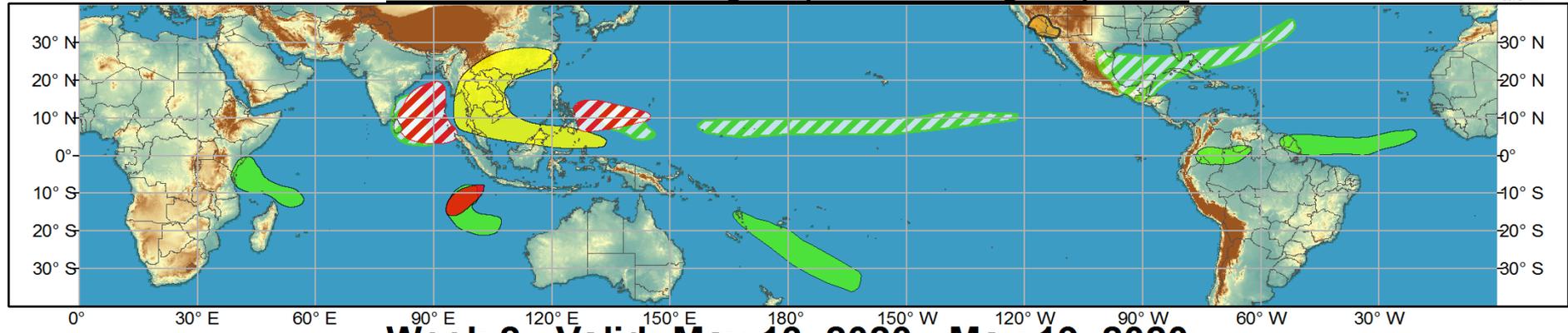


Pacific Trough is trending closer to the West Coast (results in a likely cooler/wetter outlook than yesterday).

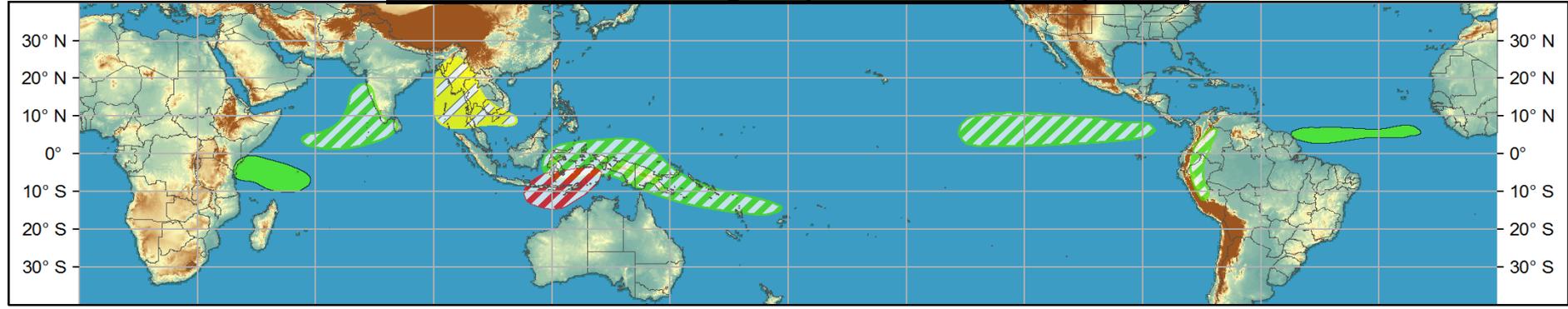


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